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Serial No.: 09/226,044

Art Unit: 1615

Filed: January 5, 1999

Examiner:

For: *ENHANCED TRANSPORT USING MEMBRANE DISRUPTIVE AGENTS*

Assistant Commissioner for Patents
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §1.56 and 37 C.F.R. §1.97, Applicants submit an Information Disclosure Statement, including four (4) pages of Form PTO-1449 and copy of each document cited therein,

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b) prior to a first Office Action on the merits. It is believed that no fee is required with this submission. However, should a fee be required, the Commissioner is hereby authorized to charge any required fees to Deposit Account No. 01-2507.

U.S. Patents

<u>Number</u>	<u>Issue Date</u>	<u>Patentee</u>	<u>Class/Subclass</u>
4,657,543	04-14-1997	Langer, et al.	604/891
5,501,584	03-26-1996	Yamamoto, et al.	418/15
5,521,291	05-28-1996	Curiel, et al.	530/391.7
5,547,932	09-20-1996	Curiel, et al.	435/65
5,599,908	02-04-1997	Raso	530/387.3
5,603,931	02-18-1997	Raso	424/136.1
5,656,609	09-12-1997	Wu, et al.	514/44

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Foreign Documents

<u>Number</u>	<u>Publication Date</u>	<u>Patentee</u>	<u>Country</u>
WO 96/40958 A1	12-19-1996	Baylor College Medicine	PCT
WO 97/04832 A1	02-13-1997	Mass. Inst. of Tech.	PCT
WO 97/09068 A2	03-13-1997	Univ. of Washington	PCT

Publications

ABELEV, "Alpha-fetoprotein in ontogenesis and its association with malignant tumors," *Adv. Cancer Res.* 14:295-350 (1971).

ANDERSON, et al., "Enhanced in vitro tumor cell retention and internalization of antibody derivatized with synthetic peptides," *Bioconjug Chem.* 4(1):10-8 (1993).

BUSCHLE, et al., "Receptor-mediated gene transfer into human T lymphocytes via binding of DNA/CD3 antibody particles to the CD3 T cell receptor complex," *Hum Gene Ther.* 6(6):753-61 (1995).

CHOI, et al. "Lactose-poly(ethylene glycol)-grafted poly-L-lysine as hepatoma cell-targeted gene carrier," *Bioconjug Chem.* 9(6):708-18 (1998).

DONBROW, Ed., Microcapsules and Nanoparticles in Medicine and Pharmacy CRC Press:Boca Raton, 1992.

GEISOW, "Fluorescein conjugates as indicators of subcellular pH. A critical evaluation," *Experimental Cell Research* 150:29-35 (1984)

GOLD, et al., "Specific carcinoembryonic antigens of the human digestive system," *J. Exp. Med.* 122:467-481 (1965).

GUY, "Current status and future prospects of transdermal drug delivery," *Pharm Res.* 13(12):1765-9 (1996).

HAENSLER, et al., "Polyamidoamine cascade polymers mediate efficient transfection of cells in culture," *Bioconjugate Chem.* 4: 372-379 (1993).

HUGHES, et al., "Evaluation of adjuvants that enhance the effectiveness of antisense oligodeoxynucleotides," *Pharm Res.* 13(3):404-10 (1996).

KIRCHEIS, et al., "Coupling of cell-binding ligands to polyethylenimine for targeted gene delivery," *Gene Ther.* 4(5):409-18 (1997).

KOST, et al., "Responsive polymer systems for controlled delivery of therapeutics," *TIBTECH* 10:127-131 (1992).

PAWLAK, et al., "Template-assembled melittin: structural and functional characterization of a designed, synthetic channel-forming protein," *Protein Science* 3:1788-1805 (1994).

PERALES, et al., "An evaluation of receptor-mediated gene transfer using synthetic DNA-ligand complexes," *Eur J Biochem.* 226(2):255-66 (1994).

PLANK, et al., "The influence of endosome-disruptive peptides on gene transfer using synthetic virus-like gene transfer systems," *J. Biol. Chem* 269: 12918-12924 (1994).

PRAUSNITZ, et al., "Reversible skin permeabilization for transdermal delivery of macromolecules," *Critical Reviews in Therapeutic Drug Carrier Systems*, 14:455-483 (1997).

PRAUSNITZ, et al., "Electroporation of mammalian skin: a mechanism to enhance transdermal drug delivery," *Proc Natl Acad Sci U S A.* 90(22):10504-8 (1993).

PRAUSNITZ, et al., "Transdermal delivery of heparin by skin electroporation," *Biotechnology (N Y)*. 13(11):1205-9 (1995).

PRESS, et al., "Endocytosis and degradation of murine anti-human CD3 monoclonal antibodies by normal and malignant T-lymphocytes," *Cancer Research* 48:2249-2257 (1988).

ROSS, et al., "Gene therapy in the United States: a five-year status report," *Hum Gene Ther.* 7(14):1781-90 (1996).

THOMAS, et al., "Polyelectrolyte-sensitized phospholipid vesicles," *Acc. Chem. Res.* 25: 336-342 (1992).

THOMAS, et al., "Membrane solubilization by a hydrophobic polyelectrolyte: surface activity and membrane binding," *Biophysical Journal* 67:1101-1106 (1994).

TOLSTIKOV, et al., "Influence of endosome-destabilizing peptides on efficacy of anti-HIV immunotoxins," *Bioconjug Chem.* 8(1):38-43 (1997).

VINOGRADOV, et al., "Self-assembly of polyamine-poly(ethylene glycol) copolymers with phosphorothioate oligonucleotides," *Bioconjug Chem.* 9(6):805-12 (1998).

WANG, et al., "Delivery of antisense oligonucleotides using HPMA polymer: synthesis of A thiol polymer and its conjugation to water-soluble molecules," *Bioconjug Chem.* 9(6):749-57 (1998).

WEAVER, et al., "Electroporation: A general phenomenon for manipulating cells and tissues," *J Cell Biochem.* 51(4):426-35 (1993).

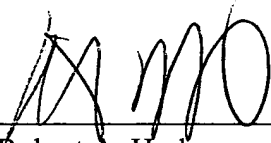
U.S.S.N.: 09/226,044
Filed: January 5, 1999
INFORMATION DISCLOSURE STATEMENT

WILDER, et al., "Radioimmunotherapy: recent results and future directions," *J. Clin. Oncol.* 14:1383-1400 (1996).

Remarks

This statement should not be interpreted as a representation that an exhaustive search has been conducted or that no better art exists. Moreover, Applicants invite the Examiner to make an independent evaluation of the cited art to determine its relevance to the subject matter of the present application. Applicants are of the opinion that their claims patentably distinguish over the art referred to herein, either alone or in combination.

Respectfully submitted,


Robert A. Hodges
Reg. No. 41,074



Dated: September 10, 1999

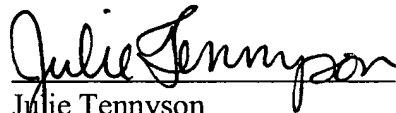
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Certificate of Mailing under 37 C.F.R. § 1.8(a)

I hereby certify that this Information Disclosure Statement, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Date: September 10, 1999


Julie Tennyson

